

What is claimed is:

1. An electric compressor comprising:

a compressor housing;

5 a compression mechanism arranged in the compressor housing for compressing fluid;

an electric motor arranged in the compressor housing for driving the compression mechanism;

a circuit cover connected to an outer surface of the compressor housing,

10 the circuit cover and the compressor housing defining an accommodating space;

and

a motor drive circuit arranged in the accommodating space for driving the electric motor, the motor drive circuit including a substrate and a switching device that is mounted on the substrate on the far side relative to the circuit cover, the  
15 switching device being pressed against the compressor housing as the motor drive circuit is fastened between the compressor housing and the circuit cover in the accommodating space due to connection of the circuit cover to the compressor housing.

20 2. The electric compressor according to claim 1, further comprising:

first and second elastic members respectively interposed between the compressor housing and the switching device of the motor drive circuit and

between the circuit cover and the motor drive circuit.

3. The electric compressor according to claim 1, further comprising:

a first elastic member interposed between the compressor housing and  
5 the switching device of the motor drive circuit.

4. The electric compressor according to claim 3, wherein the first elastic member is made of rubber that has relatively high insulating performance, relatively high elasticity and relatively high heat conductivity.

10 5. The electric compressor according to claim 4, wherein the switching device includes a heat radiating surface for radiating heat, the switching device being pressed against the first elastic member in such a manner that the heat radiating surface contacts the first elastic member.

15 6. The electric compressor according to claim 1, further comprising:

a second elastic member interposed between the circuit cover and the motor drive circuit.

20 7. The electric compressor according to claim 6, wherein the second elastic member is made of rubber that has relatively high insulating performance and relatively high elasticity.

8. The electric compressor according to claim 6, further comprising:  
a substrate support member interposed between the second elastic member and the substrate.

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9. The electric compressor according to claim 1, further comprising:  
a spacer interposed between the circuit cover and the motor drive circuit.

10. The electric compressor according to claim 9, wherein pressing force of  
10 the switching device against the compressor housing is adjusted by adjusting the thickness of the spacer.

11. The electric compressor according to claim 1, further comprising:  
a substrate support member interposed for supporting the substrate near  
15 the switching device between the circuit cover and the substrate of the motor drive circuit.

12. The electric compressor according to claim 11, wherein the motor drive circuit further includes electrical components that are mounted on the substrate  
20 on the near side relative to the circuit cover, the substrate support member being taller from the substrate than the electrical components.

13. The electric compressor according to claim 11, wherein the substrate support member is made of resin.

14. The electric compressor according to claim 11, wherein pressing force of the switching device against the compressor housing is adjusted by adjusting the thickness of the substrate support member between the circuit cover and the substrate.

15. The electric compressor according to claim 1, further comprising:

a device support member interposed for supporting the switching device on the substrate between the substrate and the switching device in the motor drive circuit.

16. The electric compressor according to claim 15, wherein the device support member is made of resin.

17. The electric compressor according to claim 15, wherein pressing force of the switching device against the compressor housing is adjusted by adjusting the thickness of the device support member between the substrate and the switching device.

18. The electric compressor according to claim 1, wherein the compression

mechanism is a scroll type.

19. The electric compressor according to claim 1, wherein the accommodating space is at least partially positioned on a portion of the compressor housing where the fluid flows by the opposite side of the portion before it is introduced into the compression mechanism.

20. The electric compressor according to claim 1, wherein the accommodating space includes bottom and top surfaces, the bottom and top surfaces each at least including plane surfaces that are parallel with each other.